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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/080,135

02/21/2002

Hans Eberle

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03/07/2006

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EXAMINER

HAN, CLEMENCE S

ART UNIT

PAPER NUMBER

2668

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/080,135	EBERLE ET AL.	
	Examiner	Art Unit	
	Clemence Han	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 19-23, 35-40 and 42-44 is/are rejected.
- 7) ☒ Claim(s) 3-18, 24-34 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>see Cont.</u> | 6) <input type="checkbox"/> Other: _____  |

IDS 4/30/04, 5/6/04, 7/13/05 and 9/22/05

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 42 and 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The limitation of the second arbitration cycle being shorter than the first arbitration cycle is not described in the specification [1045]. The scale of the first arbitration cycle and the second arbitration cycle is not clearly shown in the Figure 11, ether.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1, 2, 20-23, 36-40 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Yu et al. (US 6,501,734).

Regarding to claim 1, Yu teaches method for sharing multiple resources among users using an arbiter comprising allocating a first of the resources 208 speculatively to one of the users 70c for use during an access interval, absent a request for the first resource from the one of the users (Column 9 Line 21-25).

Regarding to claim 2, Yu teaches allocating at least a second of the resources 202 for use during the access interval according to a request received by the arbiter for the second resource (Column 10 Line 16-18).

Regarding to claim 20, Yu teaches the resources are communication links and the users are communicatively coupled to the communication links (Column 8 Line 65 – Column 9 Line 1).

Regarding to claim 21, Yu teaches an arbitration apparatus comprising: first means 80, coupled to receive requests for use of resources by users and coupled to grant access to the resources, for allocating one or more of the resources 202 to users for use during an access interval, according to the requests (Column 10 Line 16-18); and second means 80 for speculatively allocating at least a second of the resources 208 to at least one of the users 70c for use during the access interval (Column 9 Line 21-25).

Regarding to claim 22, Yu teaches an apparatus comprising: a plurality of users (20, 24 and 30); an arbiter 80 coupled to receive requests for use of resources by respective users (Column 10 Line 16-18), the arbiter responsive to speculatively allocate a resource 208 to one of the users 70c for use during an access interval, absent a request from the one user for the resource (Column 9 Line 21-25).

Regarding to claim 23, Yu teaches the arbiter 80 allocates at least a second resource 202 for use during the access interval according to a request received by the arbiter for the second resource (Column 10 Line 16-18).

Regarding to claim 36, Yu teaches the resources are communication links and the users are communicatively coupled to the communication links (Column 8 Line 65 – Column 9 Line 1).

Regarding to claim 37, Yu teaches a computer program product encoded on computer readable media providing an arbiter function that allocates resources among users of the resources, comprising: a first program portion operable to allocate resources 202 in response to requests for use of the resources (Column 10 Line 16-18); and a second program portion operable to allocate at least one resource 208 speculatively to a user in the absence of a request from the user for the resource (Column 9 Line 21-25).

Regarding to claim 38, Yu teaches the computer readable media is selected from the set of a disk, tape or other magnetic, optical, semiconductor or electronic storage medium and a network, wireline, wireless or other communications medium (Column 7 Line 4-14).

Regarding to claim 39, Yu teaches a method of allocating resources in a system comprising: arbitrating during a first arbitration cycle, requests received prior to a beginning of the first arbitration cycle, the requests for utilization of one or more of the resources 202 during a particular usage interval (Column 10 Line 16-18); allocating at least a second of the resources unallocated during the first arbitration cycle, prior to a start of the particular usage interval (Column 9 Line 21-25).

Regarding to claim 40, Yu teaches the at least one resource 208 is allocated speculatively (Column 9 Line 21-25).

Regarding to claim 44, Yu teaches an arbiter 80 coupled to receive requests for use of resources by users (Column 10 Line 16-18), the arbiter responsive to speculatively allocate at least one resource to one of the users for use during an access interval, absent a request by the one user for the resource (Column 9 Line 21-25) and to allocate other of the resources for use during the access interval according to requests for use of the resources (Column 10 Line 16-18).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 19 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al. in view of Huffman (US 6,816,947).

Regarding to claim 19, Yu teaches method for sharing multiple resources among users using an arbiter comprising allocating a first of the resources 208 speculatively to one of the users 70c for use during an access interval, absent a request for the first resource from the one of the users (Column 9 Line 21-25). Yu, however, does not teach the resources are storage locations and the users are processors. Huffman teaches the resources are storage locations 150, 160 and the users are processors 140. It would have been obvious to one skilled in the art to modify Yu to have storage locations as the resources and processors as the users as taught by Huffman in order to efficiently arbitrate memory access (Column 2 Line 40-45).

Regarding to claim 35, Yu teaches an apparatus comprising: a plurality of users (20, 24 and 30); an arbiter 80 coupled to receive requests for use of



resources by respective users (Column 10 Line 16-18), the arbiter responsive to speculatively allocate a resource 208 to one of the users 70c for use during an access interval, absent a request from the one user for the resource (Column 9 Line 21-25). Yu, however, does not teach the resources are memories and the users are processors. Huffman teaches the resources are memories 150, 160 and the users are processors 140. It would have been obvious to one skilled in the art to modify Yu to have memories as the resources and processors as the users as taught by Huffman in order to efficiently arbitrate memory access (Column 2 Line 40-45).

#### *Allowable Subject Matter*

7. Claim 3-18, 24-34 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the invention in general.

U.S. Patent 5,267,235 to Thacker

U.S. Patent 5,664,121 to Cerauskis

U.S. Patent 5,956,342 to Manning et al.

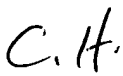
U.S. Patent 6,535,941 to Kruse

U.S. Pub. 2002/0129181 to Lahiri et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Clemence Han  
Examiner  
Art Unit 2668

  
STEVEN NGUYEN  
PRIMARY EXAMINER